the entire surface area of the image converter screen **8**. More particularly, with this geometry substantially no degradation of the resolution of the image is obtained from the center of the converter screen **8** toward the outer perimeter of the converter screen **8**. This contrasts markedly with the geometry and resolution obtained in the prior art, as shown in FIG. **2**. In the prior art structure, the electron exit aperture **19** in the third electrode structure **16'** was axially spaced from the electron entrance aperture **21** of the anode electrode **12'**. As a result, the electron optics were less than optimum resulting in a degradation of the resolution of the image obtained from the image converter screen **8** near the outer perimeter of the image.

An operating potential, as of about 2.5 kV positive with respect to cathode, is applied to the third electrode structure **16** via lead **22** which is tapped off the potential source **13**.

A second cylindrical focus electrode structure **23** is disposed upstream of the third electrode **16**. The second electrode structure **23** includes a hollow cylindrical member having an electron entrance aperture **24** at the upstream end thereof and an electron exit aperture **25** at the downstream end thereof. The mouth **17** of the third electrode structure **16** is disposed within the electron exit aperture **25** of the second electrode structure **23** to form a two cylinder electron focusing lens. Electrode **23** is supported from the third electrode **16** via a plurality of insulator structures **26** disposed about the perimeter of electrodes **23** and **16**. An operating potential as of about 800 volts positive with respect to the cathode is applied to the second electrode **23** via lead **27** which is tapped off the potential source **13**.

A first hollow cylindrical focus electrode structure **28** is disposed upstream from the second electrode **23**. The first electrode **28** is conveniently formed by depositing a conductive metal, as of aluminum, onto the inside wall of the envelope **2** and is joined to the face plate **3** via mating metallic frames **30** as of Kovar. The first electrode **28** has an electron entrance aperture **29** at the upstream end thereof and an electron exit aperture **31** at the downstream end thereof, such entrance and exit apertures being of approximately the same size. The electron entrance aperture **24** of the second electrode **23** is disposed within the electron exit aperture **31** of the first electrode **28** to form a two cylinder electron focusing lens. A suitable operating potential as of about 240 volts positive with respect to the cathode is applied to the first electrode **28** via lead **32** tapped off the source of potential **13**.

The conductive electrode **5** which is mounted within the domed face plate **3** includes a cylindrical extension portion **5'** to facilitate proper focusing of the electron images emitted from the photocathode **7**. The cylindrical extension **5'** is coaxially spaced within the mouth **29** of the first cylindrical focus electrode structure **28** to form a two cylinder electron focus lens.

It has been found that when the various electrode structures within the tube **1** have the following relative dimensions normalized to the maximum diameter of the first focusing electrode, *d*, that optimum resolution is obtained over substantially the entire surface of the image converter screen **8**. More particularly, a resolution of 70 line pairs per inch at the input or 28 line pairs per millimeter on the output screen **8** is readily obtained. The optimum normalized dimensions are: anode electrode apertures **21** of $0.12d$ diameter and an anode length of $0.19d$, third electrode **16** having an entrance aperture of $0.45d$ in diameter at the mouth which is constricted to $0.27d$ in diameter midway along the length with the length of the mouth portion being $0.13d$ and the constricted midportion being $0.22d$ in length, the second electrode **23** having a central aperture $0.60d$ in diameter and $0.29d$ in length, and the first electrode **28** having a central aperture $1.0d$ in diameter and $0.53d$ in length with the axial spacing from the center of the face plate **3** to the end of the cylindrical skirt **5'** being $0.24d$. For the above relative dimensions, optimum resolution was obtained when the potentials applied to the various electrodes were as follows, where A is the potential applied between the photocathode **7** and the image converter screen **8**: anode potential $= A$, third electrode **16** potential $= 0.1A$, second electrode **23** potential $= 0.03A$, and first electrode **28** potential $= 0.01A$.

Since many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. In a minifying image tube, means forming a curved photoemitter electrode for receiving a photon image and converting same into an electron image, means forming a flat fluorescent image converter screen of relatively small dimensions relative to said photoemitter for bombardment by the electron image emitted from said photoemitter and for converting the electron image into an optical image of reduced size compared to the size of the electron image as emitted from said photoemitter, means forming an electron accelerating and focusing electrode structure disposed between said photoemitter and said converter screen for accelerating the electron image to relatively high velocity and for focusing same onto said flat image converter screen, said electron focusing and accelerating electrode structure including a plurality of coaxially aligned axially spaced centrally apertured electrodes insulatively supported relative to each other to permit independent operating potentials to be applied thereto in use, successive ones of said electrodes taken in the direction from said photoemitter toward said converter screen having successively smaller central apertures through which the electron image is accelerated and focused, each of said central apertures having a mouth portion facing the photoemitter and an exit portion facing said converter screen, the improvement wherein, each of said focusing accelerating electrodes is cylindrical with the mouth portions of each successively smaller electrode being disposed within the exit portion of the next preceding larger electrode to define a series of convergent electron focusing lenses, and said electrode having the smallest central aperture constitutes an anode and is disposed adjacent said converter screen with the mouth portion of its central aperture being disposed within the exist portion of the next preceding one of said centrally apertured focusing and